Technical Document LA25063

Part 2 — Technical Requirements

NRCB Natural Resources Conservation Board

Application under the *Agricultural Operation Practices Act* for a confined feeding operation, manure collection area, and/or manure storage facility(ies)

NRCB USE ONLY	Application number	Legal land description
☐ Approval ☐ Registration ☒ Authorization ☐ Amendment	LA25063	E1/2 34-5-27-W4, NW 34-5-27-W4, NW 26-5-27-W4, NE 27-5-27-W4

APPLICATION DISCLOSURE

This information is collected under the authority of the *Agricultural Operation Practices Act* (AOPA), and is subject to the provisions of the *Freedom of Information and Protection of Privacy Act*. This information is public unless the NRCB grants a written request that certain sections remain private.

Any construction prior to obtaining an NRCB permit is an offence and is subject to enforcement action, including prosecution.

I, the applicant, or applicant's agent, have read and understand the statements above, and I acknowledge that the information provided in this application is true to the best of my knowledge.

Aug-6-2025
Date of signing

[redacted]
Signature

Hutterian Brethren of Thompson
Corporate name (if applicable)

George Tschetter
Print name

GENERAL INFORMATION REQUIREMENTS

Proposed facilities: list all proposed confined feeding operation facilities and their dimensions. Indicate whether any of the proposed facilities are additions to existing facilities. (attach additional pages if needed)

Proposed facilities	Dimensions (m) (length, width, and depth)
increace catch basin east	126 x24 x3m. (depth)
" " " Center	140 x24 x3m
" " " west	150 x24 x3m.
	(final dimensions)

Existing facilities: list **ALL** existing confined feeding operation facilities and their dimensions

Existing facilities	Dimensions (m) (length, width, and depth)	NRCB USE ONLY
		see next page

NRCB USE ONLY

All facilities confirmed

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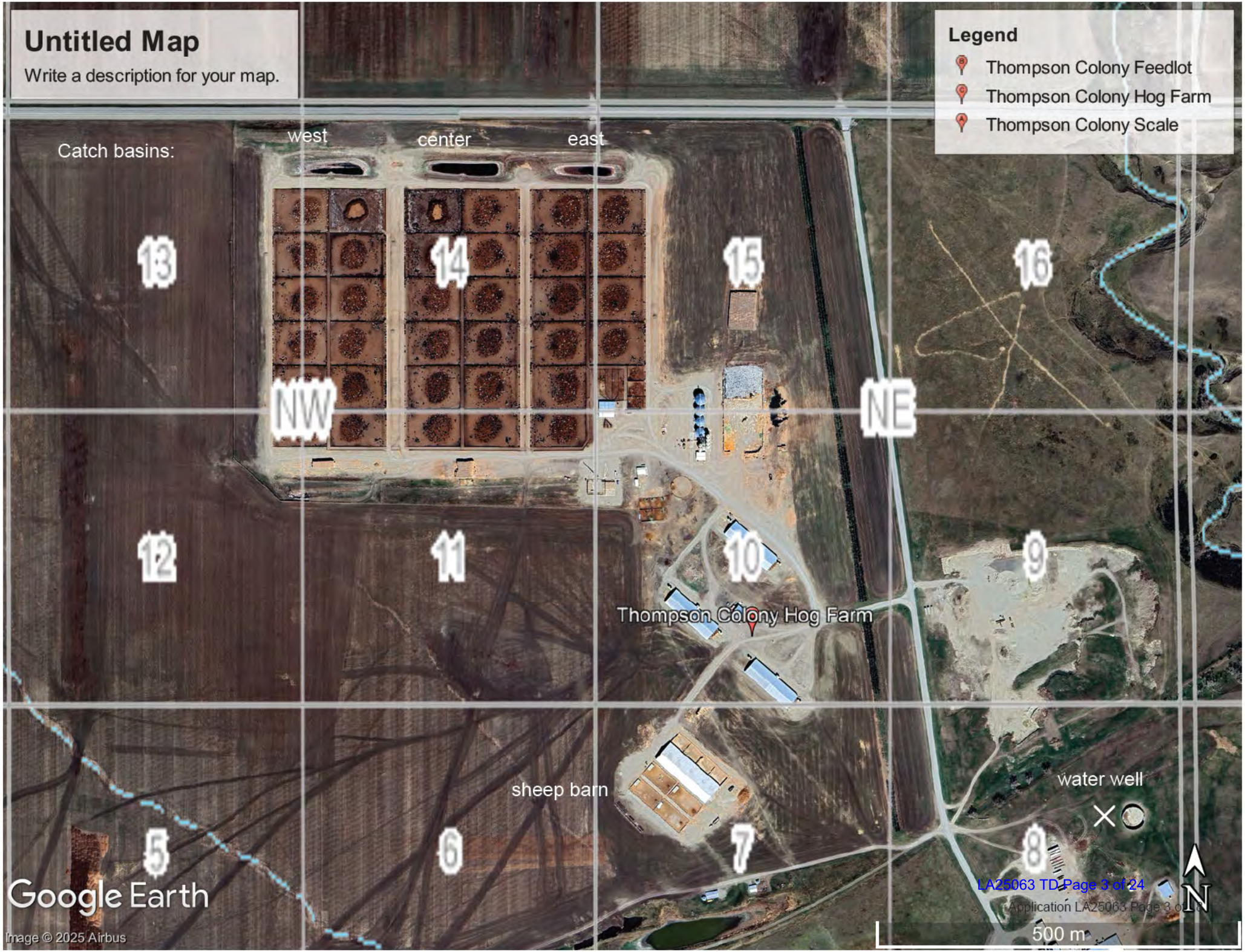
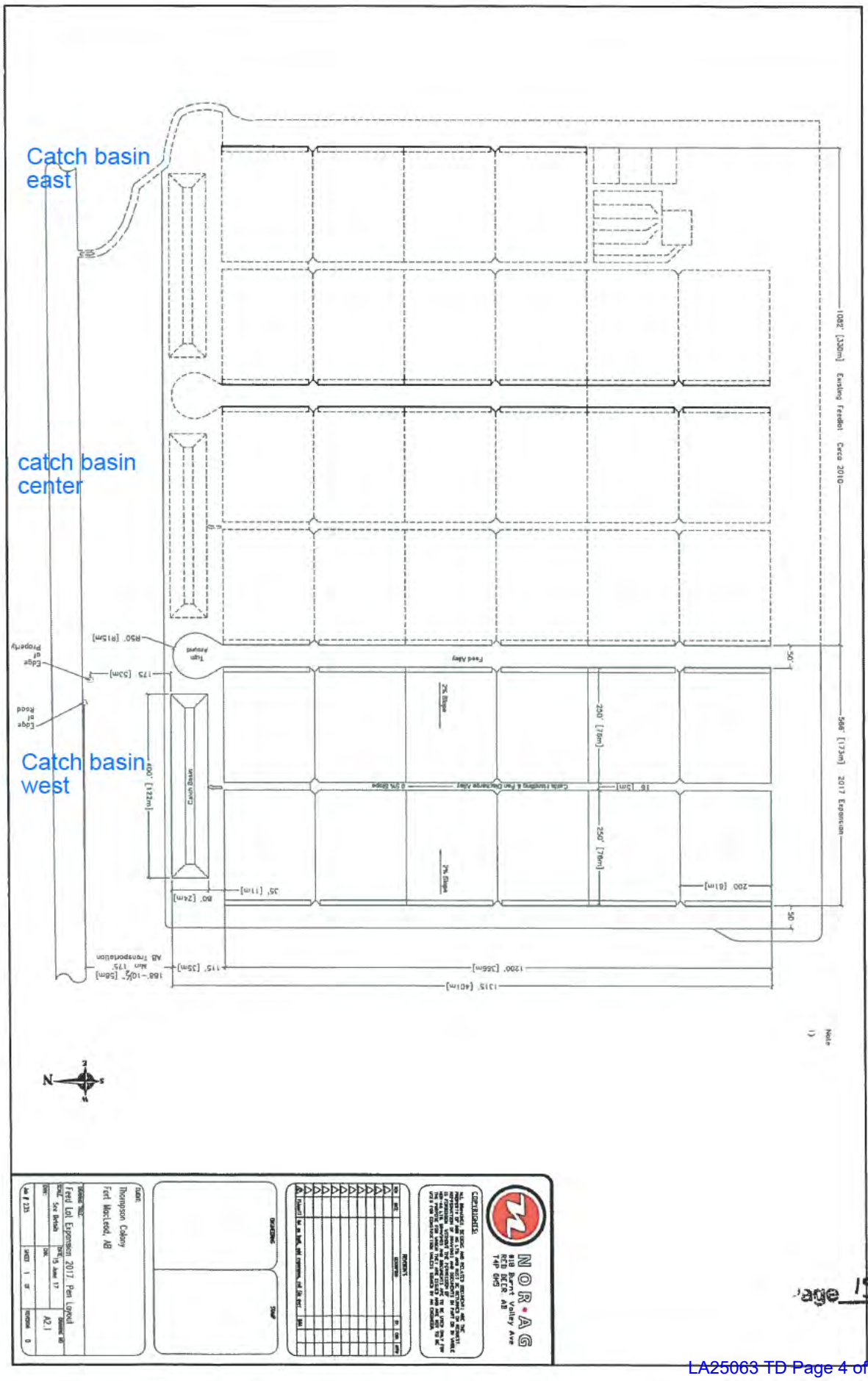
Existing facilities continued	Dimensions (m) (length, width, and depth)	NRCB USE ONLY

Existing permitted facilities

Facility	Dimensions (m)	Permit
Sheep barn with attached shelter and outside grazing area	82.5 m x 27.1 m 82.5 m x 7.7 m 82.5 m x 16.2 m	LA22027
Swine feeder barn	77.4 m x 22.5 m x 4 m	LA17056
Feedlot expansion	157 m x 36 6m	LA17028
Catch basin	122 m x 24 m x 3 m	
Feedlot	366.0 x 330.0	LA10057
Catch basin	122.0 x 24.0 x 3.1 to be expanded	
Catch basin	122.0 x 24.0 x 3.1 to be expanded	
Poultry broiler barn	25.0 x 65.8	LA06011
Poultry broiler barn	18.3 x 15.3	LA05011
Manure clean-up pad	3.7 x 7.3	
Feeder barn 1	77.5 x 22.6 x 2.5	LA04021
Feeder barn 2	77.5 x 22.6 x 2.5	
Goose barn	10.7 x 10.7	Deemed
Poultry barn 1	38.1 x 12.2	
Poultry barn 2	38.1 x 12.2	
Poultry barn 3	18.3 x 7.7	
Tukey barn	24.4 x 10.4	
Turkey barn penning	24.2 x 10.4	
Dairy barn	30.0 x 48 m	
Dairy calf barn	36.9 x 7.7	
Dairy calf penning	37.0 x 9.2	
Dairy replacement barn	15.3 x 7.7	
Dairy replacement pens	28.6 x 41.4	
Dairy calf lean-too	36.6 x 10.7	
Dairy calf lean-too penning	16.9 x 36.2	
Dairy corrals	72.0 x 71.4	

Permitted but not yet constructed: Feedlot pens (located west of existing feedlot: 157 m x 366 m
Catch basin: 122 m x 24 m x 3 m deep (Approval LA23009) (to be expanded)


Untitled Map
Write a description for your map.
Legend
Thompson Colony Feedlot
Thompson Colony Hog Farm
Thompson Colony Scale
Catch basins:
west
center
east
13
14
15
16
NW
NE
12
11
10
9
Thompson Colony Hog Farm
sheep barn
water well
5
6
7
8
N
500 m
Google Earth
Image © 2025 Airbus


Catch basin east
catch basin center
Catch basin west
1082' [330m] Existing Feedlot Capacity 2010
586' [179m] 2017 Expansion
Feed Alley
Chute
2% Slope
250' [76m]
200' [61m]
400' [122m]
1315' [401m]
1200' [366m]
AB Transportation

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If a new facility is replacing an old facility, please explain what will happen to the old facility and when. ☑ N/A

Construction completion date for proposed facilities 2025

Additional information

Livestock numbers: Complete only if livestock numbers are different from what was identified in the Part 1 application. Note: if livestock numbers increase in your Part 2 application, a new Part 1 application must be submitted which may result in a loss of priority for minimum distance separation (MDS).

Livestock category and type (Available in the Schedule 2 of the Part 2 Matters Regulation)	**Permitted number**	**Proposed increase or decrease in number (if applicable)**	**Total**
No increase in animals proposed			

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DECLARATION AND ACKNOWLEDGMENT OF APPLICANT CONCERNING *WATER ACT* LICENCE
issued by Alberta Environment and Protected Areas (EPA) for a confined feeding operation (CFO)
Date and sign one of the following four options

OPTION 1: Applying through the NRCB for both the AOPA permit and the *Water Act* licence

I **DO** want my water licence application coupled to my AOPA permit application.

Signed this ____day of _____, 20____. _____
Signature of Applicant or Agent

OPTION 2: Processing the AOPA permit and *Water Act* licence separately

1. I (we) acknowledge that the CFO will need a new water licence from EPA under the *Water Act* for the development or activity proposed in this AOPA application.
2. I (we) request that the NRCB process the AOPA application **independently of** EPA's processing of the CFO's application for a water licence.
3. In making this request, I (we) recognize that, if this AOPA application is granted by the NRCB, the NRCB's decision will not be considered by EPA as improving or enhancing the CFO's eligibility for a water licence under the *Water Act*.
4. I (we) acknowledge that any construction or actions to populate the CFO with livestock pursuant to an AOPA permit in the absence of a *Water Act* licence will **not** be relevant to EPA's consideration of whether to grant the *Water Act* licence application.
5. I (we) acknowledge that any such construction or livestock populating will be at the CFO's sole risk if the *Water Act* licence application is denied or if the operation of the CFO is otherwise deemed to be in violation of the *Water Act*. This risk includes being required to depopulate the CFO and/or to cease further construction, or to remove "works" or "undertakings" (as defined in the *Water Act*).
6. **AS RELEVANT:** I (we) acknowledge that the CFO is located in the South Saskatchewan River Basin and that, pursuant to the *Bow, Oldman and South Saskatchewan River Basin Water Allocation Order* [Alta. Reg. 171/2007], this basin is currently closed to new surface water allocations.
7. **Provide:** Water licence application number(s) _____

Signed this ____ day of _____, 20____. _____
Signature of Applicant or Agent

OPTION 3: Additional water licence not required

1. I (we) declare that the CFO will not need a new licence from EPA under the *Water Act* for the development or activity proposed in this AOPA application.
2. **Provide**: Water license number(s) or water conveyance agreement details _____

Signed this 5 day of Aug, 2025. [redacted]
Signature of Applicant or Agent

OPTION 4: Uncertain if *Water Act* licence is needed; acknowledgement of risk (for existing CFOs only)

1. At this time, I (we) do not know whether a new water licence is needed from EPA under the *Water Act* for the development or activity proposed in this AOPA application.
2. If a new *Water Act* licence is needed, I (we) request that the NRCB process the AOPA application **independently of** EPA's processing of the CFO's application for a water licence.
3. In making this request, I (we) recognize that, if this AOPA application is granted by the NRCB, the NRCB's decision will not be considered by EPA as improving or enhancing the CFO's eligibility for a water licence under the *Water Act*.
4. I (we) acknowledge that any construction or actions to populate the CFO with additional livestock pursuant to an AOPA permit in the absence of a *Water Act* licence will **not** be relevant to EPA's consideration of whether to grant my *Water Act* licence application, if a new water licence is needed.
5. I (we) acknowledge that any such construction or livestock increase will be at the CFO's sole risk if the *Water Act* licence application is denied or if the operation of the CFO is otherwise deemed to be in violation of the *Water Act*. This risk includes being required to depopulate the CFO and/or to cease further construction, or to remove "works" or "undertakings" (as defined in the *Water Act*).
6. **AS RELEVANT:** I (we) acknowledge that the CFO is located in the South Saskatchewan River Basin and that, pursuant to the *Bow, Oldman and South Saskatchewan River Basin Water Allocation Order* [Alta. Reg. 171/2007], this basin is currently closed to new surface water allocations.
7. **Provide**: Water license number(s) or water conveyance agreement details _____

_____

Signed this ____ day of _____, 20____. _____

Signature of Applicant or Agent

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GENERAL ENVIRONMENTAL INFORMATION

(complete this section for the worst case of the existing facility which is the closest to water bodies or water wells and for each of the proposed facilities)

Facility description / name *(as indicated on site plan)*

Existing: Catch basin (east, center, west) **Proposed 1:** _____

Proposed 2: (existing catch basins proposed to be expanded) **Proposed 3:** _____

Facility and environmental risk information		Facilities				NRCB USE ONLY	
		Existing	Proposed 1	Proposed 2	Proposed 3	Meets requirements	Comments
Flood plain information	What is the elevation of the floor of the lowest manure storage or collection facility above the 1:25 year flood plain or the highest known flood level?	☑ >1 m ☐ ≤ 1 m	☐ >1 m ☐ ≤ 1 m	☐ >1 m ☐ ≤ 1 m	☐ > 1 m ☐ ≤ 1 m	☑ YES ☐ NO ☐ YES with exemption	Not located in known floodplain
Surface water information	How many springs are within 100 m of the manure storage facility or manure collection area?	no springs				☑ YES ☐ NO ☐ YES with exemption	No springs observed during site visit or EPA database
	How many water wells are within 100 m of the manure storage facility or manure collection area?	1000 m				☑ YES ☐ NO ☐ YES with exemption	the closest water well is further than 500 m away
	What is the shortest distance from the manure collection or storage facility to a surface water body? (e.g., lake, creek, slough, seasonal)	600 m				☑ YES ☐ NO ☐ YES with exemption	Scots Coulee is further than 500 m east of the catch basins
Groundwater information	What is the depth to the water table?	7m				☑ YES ☐ NO ☐ YES with exemption	No water table within the 12 m drilling depth
	What is the depth to the groundwater resource/aquifer you draw water from?	35m				☑ YES ☐ NO ☐ YES with exemption	Below 12 m

Additional information (attach supporting information, e.g. borehole logs, records, etc. you consider relevant to your application)

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NRCB USE ONLY

ENVIRONMENTAL RISK SCREENING INFORMATION

ERST for **proposed** facilities See Decision SummaryLA25063 for details

Facility	Groundwater score	Surface water score	File number

ERST for **existing** facilities All facilities were assessed in 2017 and 2023 and were determined to pose a low risk to groundwater and surface water (Approvals LA17056 and LA23009)

Facility	Groundwater score	Surface water score	File number

ERST related comments:

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Application under the *Agricultural Operation Practices Act* for a confined feeding operation, manure collection area, and/or manure storage facility(ies)

NRCB USE ONLY

WATER WELL AND SURFACE WATER INFORMATION

Well IDs: Well 120381 (not within 400 m of the CFO) _____ _____ _____ _____ _____

Surface water related concerns from directly affected parties or referral agencies: ☐ YES ☑ NO

Groundwater related concerns from directly affected parties or referral agencies: ☐ YES ☑ NO

Water wells ☑ N/A

If applicable, exemption for 100 m distance requirements applied: ☐ YES ☐ NO Condition required: ☐ YES ☐ NO

Surface water ☑ N/A

If applicable, exemption for 30 m distance requirements applied: ☐ YES ☐ NO Condition required: ☐ YES ☐ NO

Water Well Exemption Screening Tool ☑ N/A

Water Well ID	Preliminary Screening Score	Secondary Screening Score	Facility

Groundwater or surface water related comments:

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DISTANCE OF ANY MANURE STORAGE FACILITY (EXISTING OR PROPOSED) TO NEIGHBOURING RESIDENCES

			NRCB USE ONLY				
Neighbour name(s)	**Legal land description**	**Distance (m)**	**Zoning (LUB) category**	**MDS category (1-4)**	**Distance (m)**	**Waiver attached (if required)**	**Meets regulations**
KGJ	2-6-27 W4	1640	RG	1	1632 m		yes
Henegerer Farms	25-527 W4	3048	RG	1	3456 m		yes
Ewelme Colony	SW-7-6-26 W4	4572	RG	1	4409 m		yes

RG = Rural general

LAND BASE FOR MANURE AND COMPOST APPLICATION (complete only if an increase in livestock or manure production will occur)

				NRCB USE ONLY	
Name of land owner(s)*	**Legal land description**	**Usable area** (ha)**	**Soil zone *** **	**Usable area (ha)**	**Agreement attached (if required)**
				NA	
			Total		

* If you are **not** the registered landowner, you must attach copies of land use agreements signed by all landowners.

** Available manure spreading area (excluding setback areas from residences, common bodies of water, water wells, etc. as identified in Agdex 096-5 Manure Spreading Regulations)

*** Brown, dark brown, black, grey wooded, or irrigated

Additional information (attach any additional information as required)

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NRCB USE ONLY

MINIMUM DISTANCE SEPARATION

Methods used to determine distance (if applicable): google earth

Margin of error (if applicable): +/- 3 m

Requirements (m): Category 1: 1197 m Category 2: 1596 m Category 3: 1995 m Category 4: 3192 m

Technology factor: ☐ YES ☑ NO

Expansion factor: ☐ YES ☑ NO

MDS related concerns from directly affected parties or referral agencies: ☐ YES ☑ NO

LAND BASE FOR MANURE AND COMPOST APPLICATION

Land base required: _____

Land base listed: _____ NA

Area not suitable: _____

Available area _____ Requirement met: ☐ YES ☐ NO

Land spreading agreements required: ☐ YES ☐ NO

Manure management plan: ☐ YES ☐ NO If yes, plan is attached: ☐

PLANS

Submitted and attached construction plans: ☑ YES ☐ NO

Submitted aerial photos: ☑ YES ☐ NO

Submitted photos: ☐ YES ☑ NO

GRANDFATHERING

Already completed: ☑ YES ☐ NO ☐ N/A

If already completed, see LA17005

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NRCB USE ONLY

ALL SIGNATURES IN FILE ☑ YES ☐ NO

DATES OF APPROVAL OFFICER SITE VISITS

August 19, 2025	

CORRESPONDENCE WITH MUNICIPALITIES AND REFERRAL AGENCIES

Date deeming letters sent: August 7, 2025

Municipality: MD of Willow Creek

☑ letter sent ☑ response received ☑ written/email ☐ verbal ☐ no comments received

Alberta Health Services: NA

☐ letter sent ☐ response received ☐ written/email ☐ verbal ☐ no comments received

Alberta Environment and Parks: ☐ N/A

☑ letter sent ☑ response received ☑ written/email ☐ verbal ☐ no comments received

Alberta Transportation: ☐ N/A

☑ letter sent ☑ response received ☑ written/email ☐ verbal ☐ no comments received

Alberta Regulatory Services: ☑ N/A

☐ letter sent ☐ response received ☐ written/email ☐ verbal ☐ no comments received

Other: Cardston County, MD of Pincher Creek ☐ N/A

☑ letter sent ☐ response received ☐ written/email ☐ verbal ☑ no comments received

Other: Atco Gas ☐ N/A

☑ letter sent ☐ response received ☐ written/email ☐ verbal ☑ no comments received

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RUNOFF CONTROL CATCH BASIN: Naturally occurring protective layer

*(complete a copy of this section for **EACH proposed** runoff control catch basin with a naturally occurring protective layer)*

Facility description / name *(as indicated on site plan)*

1. CB east
2. CB Center
3. CB west

Determination of runoff area

Provide a plan and show how you calculated the area contributing to runoff for each catch basin

See Scatch

Catch basin capacity

	Length (m)	Width (m)	Total depth (m)	Depth below ground level (m)	Slope run:rise			NRCB USE ONLY
					Inside end walls	Inside side walls	Outside walls	Calculated storage capacity (excl. 0.5 m freeboard) (m^3)
1.	126	24	3m	3	3:1	3:1	/	3,945 cub.m
2.	140	24	3m	3	3:1	3:1	/	4,418 cub. m
3.	150	24	3m	3	3:1	3:1	/	4,755 cub.m
							TOTAL CAPACITY	13,118 cub.m

Naturally occurring protective layer details

Thickness of naturally occurring protective layer	_____(m)	Provide details (as required) see report attached	
Soil texture	_____% sand	_____% silt	_____% clay
Hydraulic conductivity - naturally occurring protective layer	Depth and type of soil tested	Hydraulic conductivity (cm/s)	Describe test standard used

Catch Basin – Design and management requirements can be found in Technical Guideline Agdex 096-101

If soil info differs per facility include additional soils page.

NRCB USE ONLY

Requirements met: ☑ YES ☐ NO

Condition required: ☑ YES ☐ NO

Report attached: ☑ YES ☐ NO

RUNOFF CONTROL CATCH BASIN: Naturally occurring protective layer (cont.)

NRCB USE ONLY

Catch basin calculator. Total volume @ freeboard level: 13,118 cub m Runoff capacity requirements met: ☑ YES ☐ NO

Calculation of the volume attached: ☑ YES ☐ NO (see below)

Depth to water table: > 12 m blg Requirements met: ☑ YES ☐ NO

Depth to uppermost groundwater resource: >12 m blg Requirements met: ☑ YES ☐ NO

ERST completed: ☑ See ERST page for details

Protective layer specification comments (e.g. sand lenses; layering uniform or irregular; number and location of boreholes):

Uniform layering of till, mostly clay or clay-loam, stiff, medium plastic.
No water table encountered wihin 12 m drilling depth

Leakage detection system required: ☐ YES ☑ NO If yes, please explain.

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NRCB USE ONLY **RUNOFF CONTROL CATCH BASIN CAPACITY SUMMARY (if applicable)**	
Facility 1	
Name / description CB east	Capacity 3,945 cub.m
Facility 2	
Name / description CB center	Capacity 4,418 cub.m
Facility 3	
Name / description CB west	Capacity 4,755 cub.m
Facility 4	
Name / description CB (not constructed yet) LA23009	Capacity 3840 cub.m
TOTAL CAPACITY	16,958 cub m
RUNOFF VOLUME FROM CONTRIBUTING AREAS	13,448 cub.m (* see below)
MEETS AOPA RUNOFF CONTROL VOLUME REQUIREMENTS	☑ YES ☐ NO

* the unconstructed feedlot pen area, approved in Approval LA23009, has not been subtracted in the overall required volume

July 24, 2017

Amec Foster Wheeler File: LT164502

Thompson Colony
P.O. Box 160
Fort Macleod, AB T2P 2M7

Attention: Mr. George Tschetter

Re: Geotechnical Review and Evaluation
Proposed Feedlot Expansion
NW-34-5-27-W4, near Fort Macleod, Alberta

As requested, Amec Foster Wheeler Environment & Infrastructure has carried out a geotechnical review and evaluation of the above captioned site relative to the required protection of the groundwater resource, as required by the Agricultural Operation Practices Act, AB Reg. 267/2001 (hereinafter referred to as "AOPA"). This letter encompasses the soil conditions associated with the proposed feedlot expansion to the west of the existing feedlot, as illustrated on Figure 1.

In order to demonstrate the suitability of the natural clay soils for consideration as a naturally occurring protective layer, a series of five boreholes were advanced at the site on June 22, 2017. The boreholes were advanced at the approximate locations illustrated on Figure 1.

The boreholes were advanced by a truck-mounted drill rig owned and operated by Chilako Drilling Services, and extended to depths ranging between about 3 m and 12 m below existing grades. These boreholes were logged by Mr. Larry DeLong of Chilako Drilling Services Ltd (see attachments).

In general, the soils encountered within the boreholes were predominantly clay till. No groundwater resource (as defined by the AOPA) was identified within the 12 m drilling depth.

In order to demonstrate the permeability of the subsurface soils, 50 mm diameter PVC monitoring wells were constructed in boreholes TC1-17 and TC5-17. The test wells were screened from 7.6 m to 10.7 m depth (TC1-17) and from 1.6 m to 3.2 m depth (TC5-17). Well saturation of the 50 mm diameter monitoring wells was carried out by filling the monitoring wells to the top of the well for several consecutive days. After several days, the 24 hour water drop in the standpipe at TC1-17 was measured to be about 2.03 m, and the 24 hour drop in TC5-17 was measured to be about 0.20 m.

In order to calculate the permeability of the screened portion of the clay stratum at the test well locations, a modified falling head test (as outlined in the USBR *Engineering Geology Field Manual Volume 2* [2001]) was used. The input variables and output data are outlined on the *In Situ Permeability Test* reports, attached. As outlined on the reports, the results of the *in situ* permeability testing indicate hydraulic conductivities, k_s, of **6.1×10^{-8} cm/s** (TC1-17) and **2.8×10^{-8} cm/s** (TC5-17).

Amec Foster Wheeler
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amec foster wheeler

Using the measured permeability of the clay stratum, the 3.2 m portion of clay which has been screened at borehole TC1-17 has been estimated to represent an equivalent of about 52 m of naturally occurring materials having a hydraulic conductivity of 1 x 10^{-6} cm/s. Similarly, the 1.6 m portion of clay which has been screened at borehole TC5-17 has been estimated to represent an equivalent of about 57 m of naturally occurring materials having a hydraulic conductivity of 1 x 10^{-8} cm/s. This represents natural material protection in excess of the minimum requirements outlined by the AOPA for catch basins (minimum 5 m, Section 9.5-b) and solid manure storage (minimum 2 m, Section 9.5-c).

Conclusion

Based on the results of the current investigation and permeability testing, and our understanding of the site and proposed development at the site, it is Amec Foster Wheeler's opinion that the naturally occurring materials at the site satisfy the requirements for a naturally occurring 'protective layer' for the proposed feedlot expansion, as outlined in the AOPA.

We trust this satisfies your present requirements. If you have questions or require further information or clarification, please don't hesitate to contact the undersigned.

Respectfully submitted,

Amec Foster Wheeler Environment & Infrastructure
A division of Amec Foster Wheeler Americas Ltd.

[redacted]

PROFESSIONAL ENGINEER JOHN LOBBEZOO ALBERTA

July 24, 2017

John Lobbezoo, P.Eng.
Senior Geotechnical Engineer
Lethbridge/Medicine Hat Branch Manager

APEGA Permit: P04546

Attachments:
Figure 1 – Borehole Location Plan
In Situ Permeability Test Calculations
Soil Profile and Parent Material Description, Chilako Drilling Services

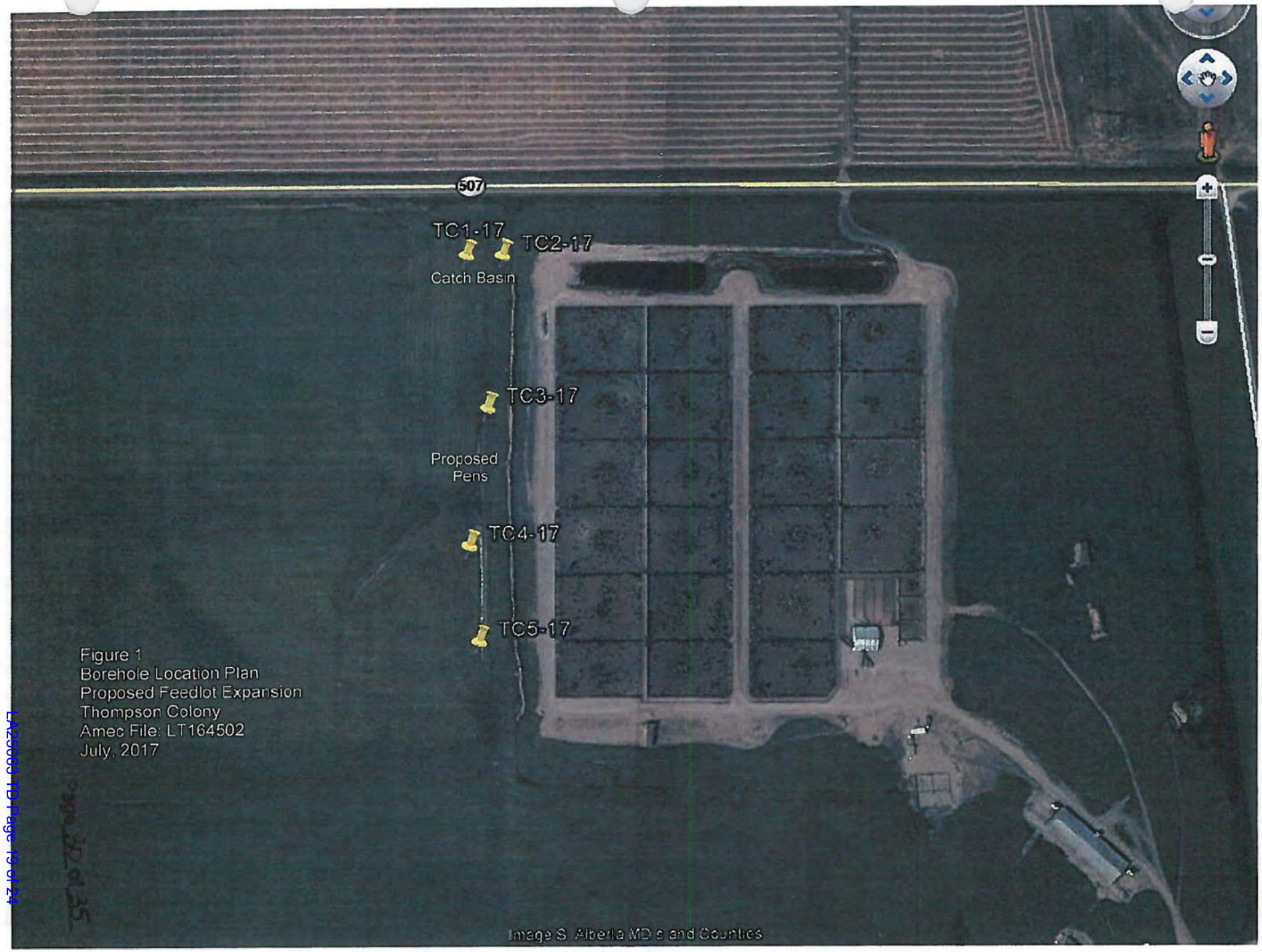


Figure 1
Borehole Location Plan
Proposed Feedlot Expansion
Thompson Colony
Amec File: LT164502
July, 2017

TC1-17

In Situ Permeability Test

amec foster wheeler

Modified Falling Head Permeability Equation

$$K_s = \frac{r^2}{2\ell\Delta t}\left[\frac{\sinh^{-1}\frac{\ell}{r_e}}{2}\ln\left[\frac{2H_1-\ell}{2H_2-\ell}\right]-\ln\left[\frac{2H_1H_2-\ell H_2}{2H_1H_2-\ell H_1}\right]\right]$$

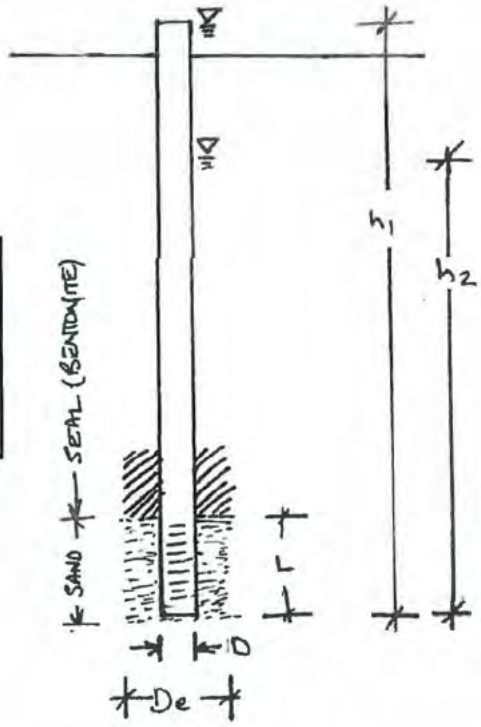
taken from USBR Engineering Geology Field Manual Volume 2 (2001)

TC1-17 - Thompson Colony

Amec Foster Wheeler File: LT164502

INPUT VARIABLES	Terms	Value	Definition
	D	0.0520	diameter of standpipe (m)
	De	0.1500	diameter of borehole (m)
	L	3.10	length of sand section (m)
	h1	11.30	initial height of water above base of hole (m)
	h2	9.27	final height of water above base of hole (m)
	t	24.0	time of test (h)

Ks =	6.1E-08 cm/sec



TC5-17

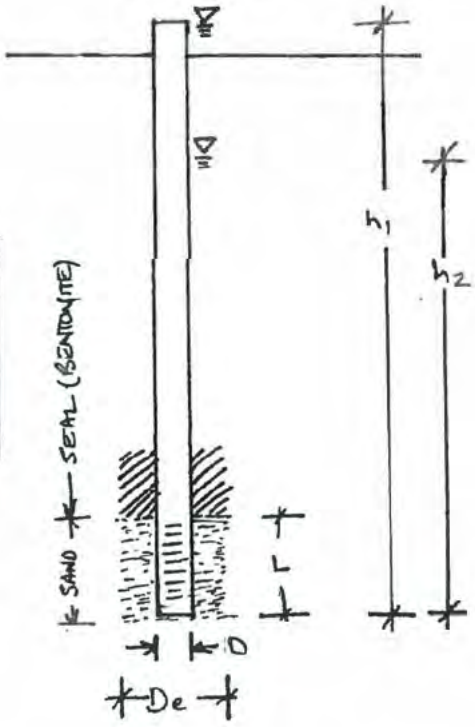
In Situ Permeability Test

amec foster wheeler

Modified Falling Head Permeability Equation

$$K_s = \frac{r^2}{2\ell\Delta t}\left[\frac{\sinh^{-1}\frac{\ell}{r_e}}{2}\ln\left[\frac{2H_1-\ell}{2H_2-\ell}\right]-\ln\left[\frac{2H_1H_2-\ell H_2}{2H_1H_2-\ell H_1}\right]\right]$$

taken from USBR Engineering Geology Field Manual Volume 2 (2001)



TC5-17 - Thompson Colony

Amec Foster Wheeler File: LT164502

INPUT VARIABLES	Terms	Value	Definition
	D	0.0520	diameter of standpipe (m)
	De	0.1500	diameter of borehole (m)
	L	1.60	length of sand section (m)
	h1	3.80	initial height of water above base of hole (m)
	h2	3.60	final height of water above base of hole (m)
	t	24.0	time of test (h)

Ks = 2.8E-08 cm/sec

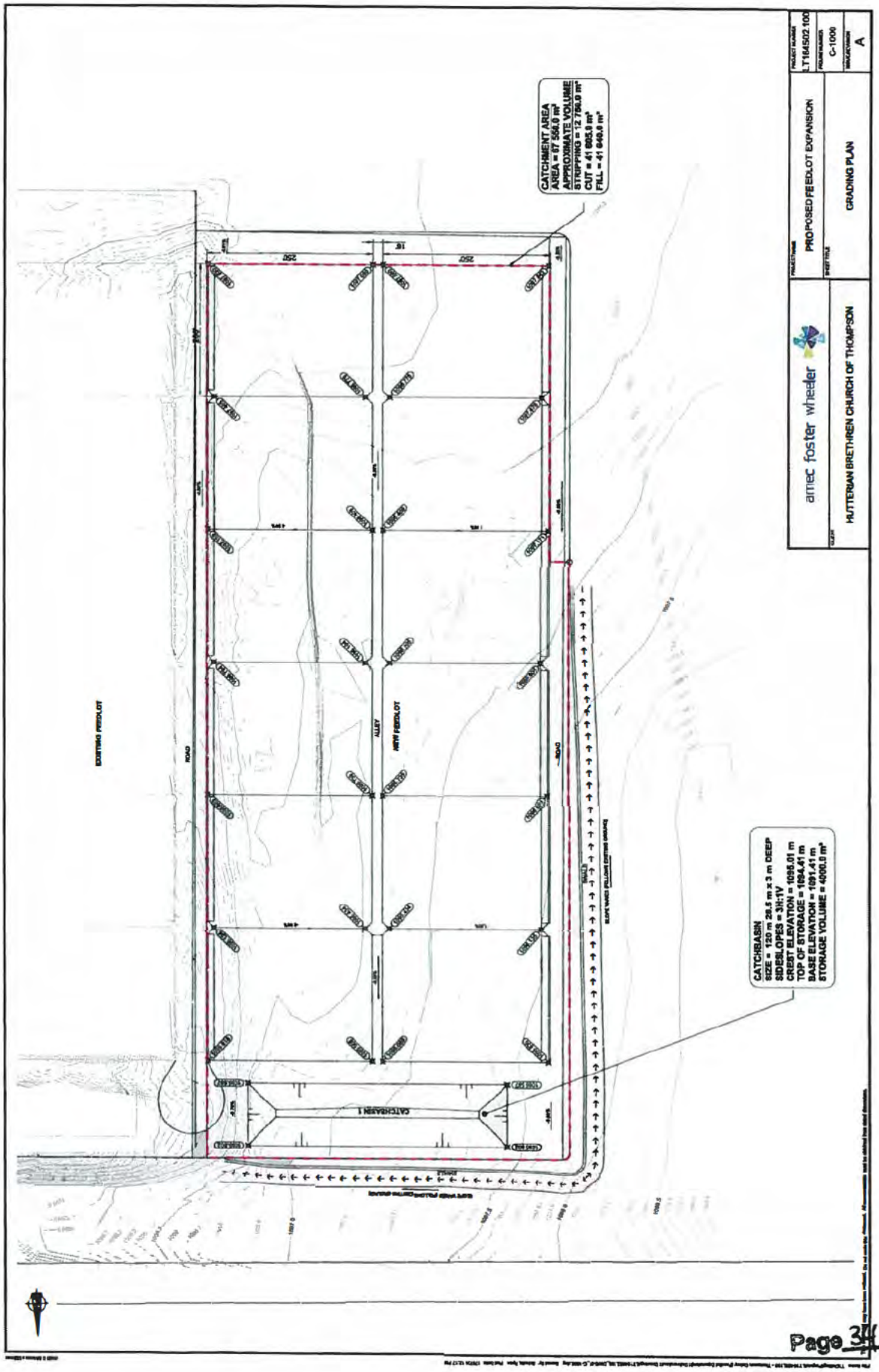
CHILAKO DRILLING SERVICES LTD

Box 942 Coaldale, Alberta, T1M 1M8
(403) 345-3710

SOIL PROFILE AND PARENT MATERIAL DESCRIPTION

Site Location: Thompson Colony NW34-5-27W4 Date: 22-Jun-17

Hole #	Location	Depth	Texture	Moisture	Geological	Sample	Remarks
TC1-17	West end	0-0.15	CL	SM	Topsoil		
	of proposed	0.15-0.4	CL	SM	Till		Stiff, med plastic, brown, trace gravel
	catch basin	0.4-1.9	C	SM	Till		Stiff, med plastic, brown, trace gravel
	0314383	1.9-6.1	C	M	Till		Stiff, med plastic, brown, trace gravel
	5479035	6.1-10.7	C	M	Till		Stiff, med plastic, brown, trace gravel
							sandstone fragments, yellow brown
							50mm H.C. well installed to 10.7m
							Screen: 10.7-7.7m
							Sand: 10.7-7.6m
							Bentonite: 7.6-4.4m
							Stickup: 0.6m
							Hole Diameter: 0.15m
TC2-17	East end	0-0.15	CL	SM	Topsoil		
	of proposed	0.15-0.6	CL	SM	Till		
	catch basin	0.6-1.2	C	M	Till		Stiff, med plastic, brown, trace gravel
	0314415	1.2-6.1	C	M	Till		Stiff, med plastic, brown, trace gravel
	5479034	6.1-12.0	C	M	Till		Stiff, med plastic, yellow brown, trace gravel
TC3-17	N-S Center	0-0.15	CL-C	M	Topsoil		
	of proposed	0.15-1.0	C	M	Till		Stiff, med plastic, dark gray
	pens	1.0-3.0	C	M	Till		Stiff, med plastic, yellow brown, trace gravel
	0314397						
	5478898						
TC4-17	Proposed	0-0.15	CL-C	M	Topsoil		
	pen area	0.15-1.6	C	M	Till		Stiff, med plastic, yellow brown
	0314376	1.6-3.0	C-SiC	M	Till		Stiff, med plastic, yellow brown, trace gravel
	5478774						
TC5-17	South	0-0.15	CL-C	M	Topsoil		
	proposed	0.15-0.4	C	M	Till		Stiff, med plastic, yellow brown, some silt
	pen area	0.4-3.2	C	M	Till		Stiff, med plastic, yellow brown, some silt
	0314382						50mm H.C. well installed to 3.2m
	5478690						Screen: 3.2-1.7m
							Sand: 3.2-1.6m
							Bentonite: 1.6-0.0
							Stickup: 0.6m
							Hole Diameter: 0.15m


CATCHMENT AREA
AREA = 67 566.0 m²
APPROXIMATE VOLUME
STRIPPING = 12 750.0 m³
CUT = 41 665.0 m³
FILL = 41 940.0 m³
CATCHBASIN
SIZE = 120 m 29.5 m x 3 m DEEP
SIDESLOPES = 3H:1V
CREST ELEVATION = 1095.01 m
TOP OF STORAGE = 1094.41 m
BASE ELEVATION = 1091.41 m
STORAGE VOLUME = 4090.0 m³
EXISTING FEEDLOT
ROAD
ALLEY
NEW FEEDLOT
CATCHBASIN 1
amec foster wheeler
PROPOSED FEEDLOT EXPANSION
GRADING PLAN
HUTTERIAN BRETHREN CHURCH OF THOMPSON
LT164502.100
C-1000
A

ELEVATION TABLE
NAME
MIN ELEVATION
MAX ELEVATION
EXISTING FEEDLOT
ALLEY
NEW FEEDLOT
ROAD
amec foster wheeler
PROPOSED FEEDLOT EXPANSION
CUT/FILL PLAN
HUTTERIAN BRETHREN CHURCH OF THOMPSON
C-1001
A

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